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52. The method of claim **51**, wherein the microfluidic channel is contained in a biochip and wherein the laser is a component of a system coupled to the biochip comprising the microfluidic channel.

53. The method of claim **43**, further comprising the step of detecting the signaling moiety by detecting fluorescence. 5

54. The method of claim **43**, wherein the sample fluid further comprises non-human, non-target nucleic acid.

55. The method of claim **43**, wherein the sample is a forensic sample. 10

56. The method of claim **43** wherein the molecular beacon probe comprises SEQ ID NO: 5 or SEQ ID NO: 6.

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